

REMARKS

Reconsideration of the application is requested in view of the above amendments and the following remarks. Claim 1 is amended, and the amendments to claim 1 are supported by at least pages 6-7 of the present application. No new matter has been added.

The specification has been amended at pages 5 and 6 to correct typographical errors noted by the Applicant. These changes to the specification are of a formal nature only and should not be construed as broadening or narrowing the scope of the disclosure of the application.

§102/§103 Rejections

Claims 1, 6, 9, 11, 12 and 16-18 were rejected under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as being obvious over Nepela, U.S. 5,734,533. Applicant respectfully traverses this rejection.

Nepela discloses a magnetic head designed to minimize side fringe fields, side reading, side writing, cross-talk interference, and pulse asymmetry of the head. The head includes a dual gap 12 interposed between the first and second poles P1, P2 that includes a central gap 14 and side gaps 16, 18. The side gaps 16, 18 are restricted in size relative to central gap 14, and the shape of second pole P2 corresponds to the shape of gaps 14, 16, 18. Second pole P2 is made of a magnetic material, such as Permalloy, which is known to those in the art as a low moment material having a magnetic moment saturation value of less than 1 Tesla. It is advantageous in the context of Nepela to use a low moment material for second pole P2 in order to restrict the spillage of flux out from the sides of the head through the side gaps 16, 18 using the structure and material of second pole P2.

Therefore, Nepela fails to disclose or suggest "a top magnetic pole deposited over the nonmagnetic gap layer and including a high moment material having a magnetic moment saturation greater than 1 Tesla," as required by claim 1. Furthermore, Nepela fails to disclose or suggest a top magnetic pole that "reduces the curved portion of the written transition," as required by claim 1. Therefore, Applicant submits that Nepela fails to anticipate or render obvious claim 1 and the claims that depend from it.

The structure and materials of the top magnetic pole required by claim 1 provides the advantage of shifting the build up of charges at the edges of the top magnetic pole of the writer

(which would otherwise cause curving of the written transition) down from the trailing edge at the edges of the gap and "straightens" previously curved portions of the written transition. Furthermore, the use of high moment material ($B_{sat} > 1$ Tesla) for the top magnetic pole in combination with the structured top magnetic pole as required by claim 1 promotes higher field gradients as compared to a structure with a flat top pole. Therefore, Nepela fails to disclose or suggest every limitation of claims 1-21 for these additional reasons. Withdrawal of the rejection is respectfully requested.

§103 Rejection

Claims 2-5, 7, 8, 10, 19 and 20 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nepela. Applicant respectfully traverses this rejection. As discussed above, Nepela fails to disclose or suggest every limitation of claim 1. Therefore, claims 2-4, 7, 8, 10, 19 and 20 are allowable for at least the reason they are dependent upon an allowable base claim.

Furthermore, Nepela fails to suggest a "second distance is greater than 25% to about 60% of the first distance," as required by claim 6, or a second distance that is at least 40%, 50% or 60% of the first distance, as required by claims 2-4, respectively. The Examiner contends that Nepela does not specify that the gap dimensions are limited to those of the exemplary embodiment. However, by the same token, Nepela fails to provide any disclosure or suggestion of gap dimensions that have a relationship different from the specific example of a central gap 14 of 0.2 microns and side gaps 16, 18 of 0.05 microns (25%). Nepela fail to disclose or suggest gaps having a relationship greater than 25% to about 60% (which includes 40%, 50% and 60%), as required by claim 1. Therefore, Nepela fails to disclose or suggest every limitation of claims 2-5.

As to claims 7, 8, 10, 19, and 20, Nepela not only fails to disclose the specific range of widths for the top magnetic pole (0.3 microns to about 0.5 microns), the relationship between the gap distance of the middle section and the width of the magnetic pole (30%), a range of gap distances of the middle section (0.1 microns to about 0.15 microns), or the shape of the shape of the end portions of the top pole (concave and convex), but also fails to suggest an embodiment different from the example at col. 3, line 55 to col. 4, line 5.

Applicant further submits that *In re Aller* has no bearing on the subject of obviousness in this instance, particularly with regard to Nepela that fails to disclose the materials as well as the function and result of claim 1 and the claims that depend from it.

Claims 13-15 were rejection under 35 U.S.C. §103(a) as being unpatentable over Nepela in view of Voegeli, U.S. 5,483,403. Applicant respectfully traverses this rejection. As discussed above, Nepela fails to disclose or suggest every limitation of claim 1. Voegeli fails to remedy the deficiencies of Nepela as it relates to claim 1. Therefore, claims 15-17 are allowable for at least the reason they are dependent upon an allowable base claim. Applicant does not otherwise concede the correctness of this rejection.

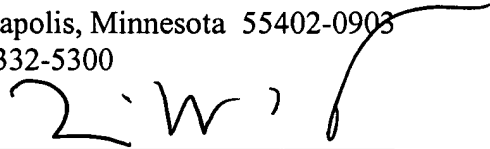
Claim 21 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nepela in view of Mino et al., U.S. 6,169,642. Applicant respectfully traverses this rejection. As discussed above, Nepela fails to disclose or suggest every limitation of claim 1. Mino fails to remedy the deficiencies of Nepela as it relates to claim 1. Therefore, claim 21 is allowable for at least the reason it is dependent upon an allowable base claim. Applicant does not otherwise concede the correctness of this rejection.

In view of the above, Applicant requests reconsideration of the application in the form of a Notice of Allowance. If a phone conference would be helpful in resolving any issues related to this matter, please contact Applicant's attorney below at 612.336.4775.

Respectfully submitted,

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